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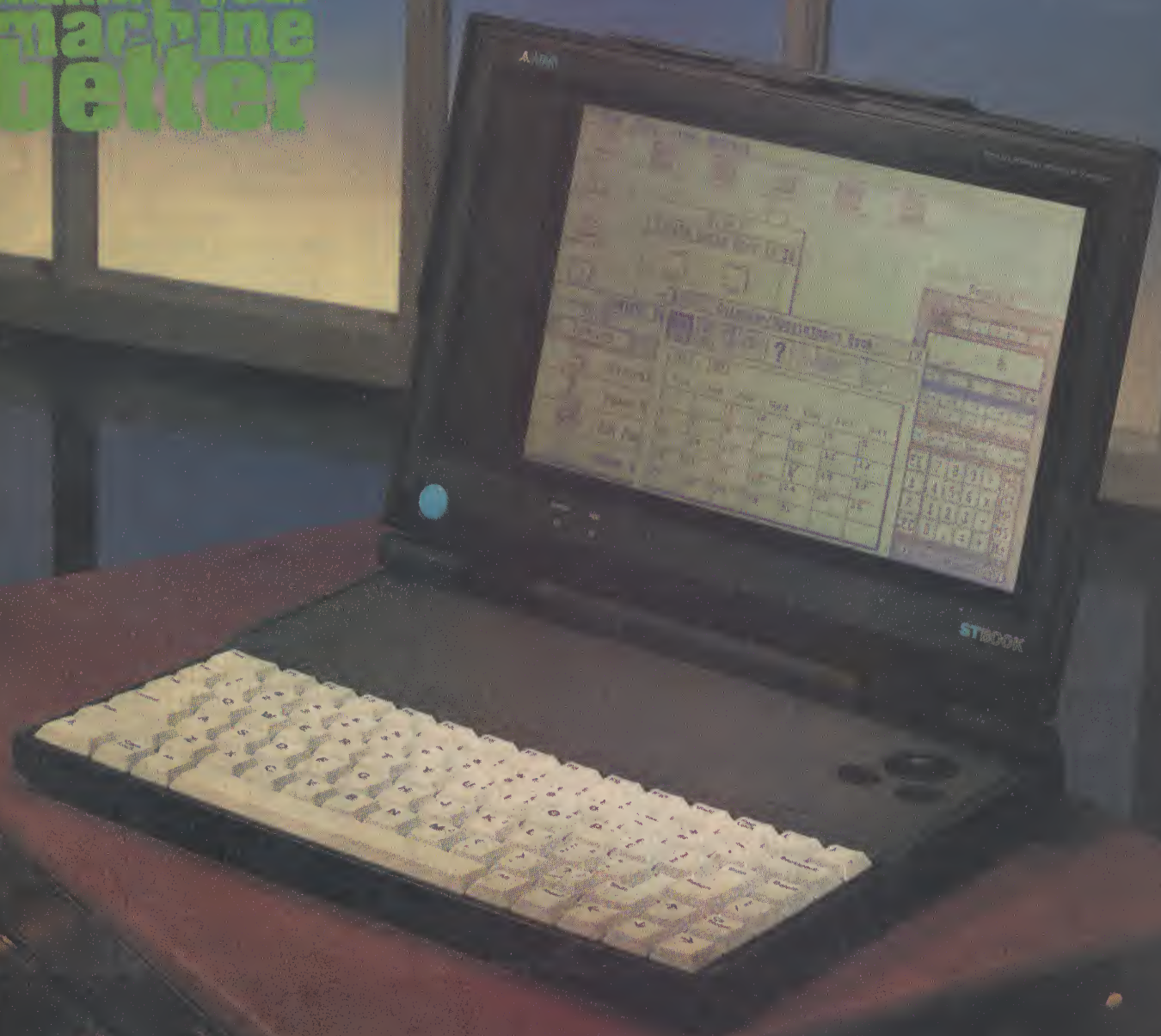
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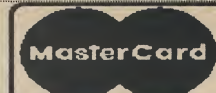
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## News & Stuff!

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Games, games, and more games... Turbo Sub,  
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# Up-Grade making your machine better

## Read Me!

Happy Holidays from AtariUser!

Our focus this month is on UPGRADES. Memory and CPU upgrades are discussed in our ST/TT, Portfolio, and 8-Bit sections. And Gregg Anderson looks at ways to upgrade your monitor situation with Multiscan monitors to replace the Atari color and monochrome units.

This month we also begin a process of fine-tuning AtariUser magazine into what we hope will be a more detailed and more technical journal. We've been listening to your feedback, and it seems that most of you are ready for more meat! We'll continue to include the more introductory material, but on a less regular basis. Similarly, to make room for the larger articles to come, we may from time to time not include one or more of the "standard" columns. Don't fret, we're not dropping our coverage of any of the Atari platforms, we're just moving them around.

1992 is just around the corner, and we'll be opening the year with a look at Desk Top Publishing (DTP) on the Atari. And we'll feature a RESOURCE of fonts and help materials for publishing at home. Don't miss it!

—John Nagy, Editor-in-Chief, AtariUser Magazine



## Columns!

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Multisync Myths and your Atari ST—Some of 'em work & some of 'em don't

### Portfolio / 22

Hardware and software upgrades for your Portfolio. B.J. Gleason's great tips

### New! ■ Games / 24

Captain Midnight's Annex. By Drew Reid Kerr

## Coming Next Month..!

The all new and improved **AtariUser '92!** Bigger, better, faster, more. Be sure to pick up America's favorite Atari mag at your favorite retailer and better user groups 'round the world!

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# AtariUser

**Publisher** Steven W. Lesh

**Editor** John Nagy

**Assistant Editor** John King Tarpinian

**Coordinating Editor** Gantry Gappmayer

**Editorial Staff**  
 Ron Bernstein,  
 Clinton Smith, Ron Kovacs,  
 Norm Weinress, Jon Clarke  
 Jim Pierson-Perry,  
 Chuck Steinman, B.J. Gleason

**Art Direction** Steven W. Lesh

**Advertising Director** P. Kevin Horn

**Distribution** Gantry Gappmayer

**Offices**  
 113 W. College St.  
 Covina, CA 91723-2008  
 818.332.0372 FAX.332.2869

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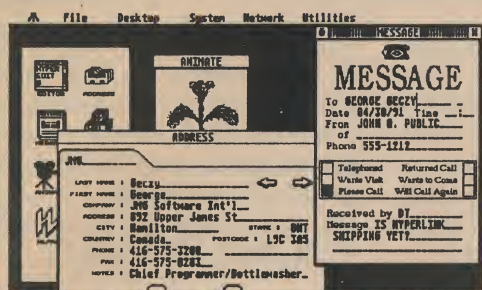
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- Adobe Type 1 Fonts for PageStream 2**
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- #1339 - Ashley, Miami Nights, Muriel, Park Haven, Pixiefont, Playbill, SanSerif, Style, Toulouse
- #1340 - Caraway Bold, Davys Ribbons, Dragonwick, Eire, Goudymedieval, Polo Semiscript, Roost Heavy, Saint Francis
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## Readers Byte Back...

### Go Atari

I am writing this letter today because I think that it may trigger some good things for Atari. I have been a proud 1040 ST owner for four years. My concern lies with the lack of advertising in the United States.

As I deal with computers in the work place five days a week, I have learned that people tend to laugh a bit when I tell them about my Atari at home! Because of the lack of good advertising, people do not have a whim of the power Atari computers possess.

When I showed a couple of my friends, who are PC owners, my 1040 on the go with all the programs and possibilities, they were truly amazed! They then told me that out of all the computer stores they had been in, they had never seen Atari on display. Now if we take a look at a couple well known United Kingdom Atari magazines, we will have to come to the assumption that Atari has their advertising working very well over there! I belong to a Southern California Atari club, and I must admit all the members feel this way! I recently read an article that Atari has sold their plant in Japan and has made a bit of money on it. Now hopefully they will put some of it to good use in the U.S. and do some quality advertising, whether it be radio or TV. Then people in the U.S. could see that Atari is not just playing games any more! This would interest them to go see Atari computers on display and then there may be a demand for more stores to carry them.

So to come to the end with a couple last statements, I hope you can print this letter and finally get these feelings across to Atari from so many loyal Atari owners! Let's go Atari; show America we're moving up! —**Mark Hulick**, Somewhere in America

### "Summertime Reads"

I was very interested in and pleased with the article in the August issue entitled "Summertime Reads" by Andy Eddy. Too bad he didn't do a review on AtariUser, as I am sure he would have given you top marks. I was pleased to see that he compares the two electronic magazines, ST Report and Z\*Net. His conclusions are the same as mine. Another club chore that I agreed to do was to download Z\*Net every week for our BBS. Before I took over, ST Report was downloaded as well. I refused to download this magazine for the reasons Eddy sets out and nobody misses it, but all want Z\*Net. I was sorry that he only

mentioned and did not compare the two English magazines- ST Format and Atari ST User. I would have liked to hear his opinion on them and see how it compares with mine. I think that Atari ST User is far superior to the other because of its broad coverage of all aspects of Atari computing. I am thinking about telling our Atari dealer to cancel my order for ST Format and just keep Atari ST User.

Well, I guess that I have rambled on long enough in this letter. If I write much more, you'll spend too much time reading it and not be able to get out the next issue of AtariUser - the magazine that is much more informative than STart ever was. —**Len Mitchell**, Halifax, Nova Scotia, Canada

*[We've received an overwhelming amount of feedback on Andy's magazine comparisons. Andy felt that having a review of AtariUser in AtariUser might be viewed as self promotion. Maybe one of the other Atari-oriented publications will let Andy have a crack at us. Any takers..? —AU]*

### No, Thank You...

Thank you for your support on behalf of all Atari user groups and also for your exceptional consolidation of Atari computer information. —**Chris Martin**, STING, Spokane, WA

### Get 'Em

It seems a response to a couple of Readers Byte Back is called for.

You explained to one reader that the publication is printed on recyclable paper. You have my explicit permission to use recycled paper. There is nothing inherently bad about using recycled material. Another Reader wants you to get rid of the "comic book" appearance and use glossy paper. Don't you dare do so. Glossies begets reflecties and is bothersome on the eyesies. Glossy for a cover might be OK but not for the inside. My message to that reader (who doesn't want a magazine printed on someone else's trash) is: Don't you dare put your filthy trash curbside where everyone can view and smell it. The world can get along mighty well without your kind. So there!

One thing we can use more of is the "Hints-N-Tips." These are always interesting and informative. Keep up the good work. We need more of it. —**Roger Koach**, Apple Valley, CA

*[We feel that Mr. Koach is one of the most intelligent, insightfull and environmentally sane people using Atari computers today. —AU]*

### Power Without Any Price..?

We do enjoy AtariUser and appreciate all your hard work, but our group has been losing membership recently and money is always a problem. Having AtariUser at each meeting for the members to pick up does seem to be helping. I hope you can work with us, and maybe we can help each other. —**Marilyn Merica**, WACE, Maize, KS

### Contradiction

The members and guests of the Salinas Valley ACE have been enjoying AtariUser since it's inception. We have appreciated your coverage of Atari products and have done our best to distribute your magazine to local and potential Atari users.

Unfortunately, we are a small club. There is no dealer support and little potential for our club without an increasing user base. The members we pick up are at lease equal to if not less than the members we lose to MS-DOS.

A magazine like AtariUser is a boost to our membership recruitment as well as retention. Unfortunately, our dues income is less than \$7.00 a month. Raising our dues would only alienate members. We hope that there is some other means that small isolated clubs like ours can continue to receive your magazine. —**Dr. Gary P. Klugman DDS**, SVACE, Salinas, CA

*[We understand the concerns raised by the last two letters. For a small minority of user groups, even \$7 a month to cover their own shipping is a strain. To help alleviate this problem we'll soon be introducing a \$5 10 pack. Unfortunately, reality rears it's ugly head every once in a while. Shipping over three tons of magazines across North America, in the timely manner the magazine needs, is just plain-ol' expensive. We've banged our heads over this one. Any-one out there (who might own a very large pick-up truck and maybe some aspirin) have any suggestions? —AU]*

### Amen

We have been getting the magazines just fine and everyone really enjoys them. The articles are very good and the ads are also good. Believe it or not, the advertisements are probably equally important. —**Rick Reaser**, P3ACE, Colorado Springs, CO

*[You bet the advertising is important. That's how we're able to publish every month. Without the support of our advertisers we wouldn't exist. So let them know you saw it in AtariUser. You don't know how powerful those words are! —AU]*



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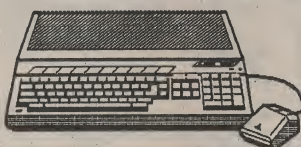
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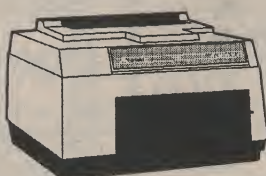
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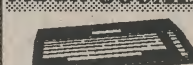
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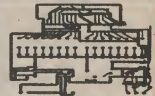
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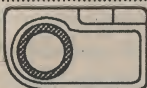


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### Nagy's News & Comment...

COMDEX and WAACE are behind us, and the Chicago Computerfest by Atari is ahead at press time (November 23-24). AtariUser will be there, and that show is shaping up to be the biggest collection of Atari dealers and developers in history. Christmas is almost upon us, but the Atari market is not in a party mood. Sales at shows are at all time highs, but vendors aren't optimistic about the gift season sales at dealers. A few promotional pushes by Atari may help for the moment, but Atari itself insists that their biggest news—and sales potential—will come in 1992.



#### COMDEX

Atari appeared at COMDEX, October 21-25, and again made a good showing. Impressive displays of niche solutions drew respectful interest, but new product announcements were limited to a reprise of the ST BOOK plus a new line of PC compatible desktop machines and a sexy 386 notebook.

Every fall, COMDEX provides dealers, distributors, and the press an opportunity to be dazzled by (and to arrange distribution) the new offerings of computer products makers from all over the world. Atari's booth was a larger than last year, located in the same spot in the Sands Convention Center which makes up about half of the 22 MILLION square feet and over 20 miles of isles of COMDEX. Atari had the largest booth in the Sands.

At Atari's booth, the mood was businessy and almost laid-back, in marked contrast to many show-biz and glitz displays of competitors. And the crowds were proportionately smaller. But what they saw was a collection of applications and solutions in MIDI and Publishing that established Atari as a player of merit in the computer biz. They were offered the ST BOOK (hot—see the cover of this issue of AtariUser!), the regular ST/TT lineup, Portfolio, and a new line of PC compatible computers, plus a

number of dealer bundles of hardware and software.

About 15 of the now familiar two-sided marble work/display tables surrounded the grey central triangular two-story booth. Two meeting rooms were in the booth, plus another large observation/meeting area atop the booth. From this vantage place, the entire Sands floor could be taken in.



#### ST BOOK

The gateway to the Atari area featured Bob Brodie as host to the ST BOOK. I'd have liked to see more fanfare for the ST Book, with spotlights and amplified sound. I wonder how many people walked right by, never suspecting that a hot new product waited for them under the arch.

Those who did see the ST Book were uniformly pleased. I even got used to the "vector pad" mouse device that is built into the ST Book. It's easy to try too hard

and make it unpleasant to use (as I had when trying it out at Glendale), but if you simply put your finger in the depression and move it as though it were on the very tip of a joystick lever, it works very smoothly and predictably.

Although a single ST Book was displayed, I was told that at least 100 motherboards have been completed and shipped by Toshiba. The case is being slightly retooled, so Atari has refrained from building too many hand-made units before real production can start. That should be by January '92, a letdown to many who had hoped for product availability in at least limited numbers by COMDEX.

More disappointing was the fact that there was no Stylus in sight on the COMDEX floor. This was a surprise, as even Atari reps had said that "this is going to be the COMDEX of the Pad Computer." It was, and pads got 90% of all of the media coverage of COMDEX. Atari's Stylus was poised to beat the bunch to the punch with the huge existing software base of the ST. Bob Brodie said that the prototypes were in "bad shape" after several shows overseas, and were not presentable enough for display. I expect that at least one Stylus and another ST Book was available in the VIP suite for the really important clients to see.

#### THE FLOOR

At each of the display tables around the main Atari "building," a complete Atari computer was set up and running. Most were manned by third party developers. The professional level products are the keystone of the "Professional Systems Group" that Atari is using to break new ground in the publishing industry. Present were Gribnif, ISD, Softlogik, CodeHead, Goldleaf, Roland, Hotz, Hybrid Arts, JMG, Lexicor, Soft-Aware, IBP, Touch Technologies, and other developers who rotated in and out through the week.

Atari had one booth dedicated to FSM GDOS, the font-scaling technology that may become the standard for Atari products. The CD ROM player built for Atari by Chinon, the CDAR505, appeared without fanfare or literature.

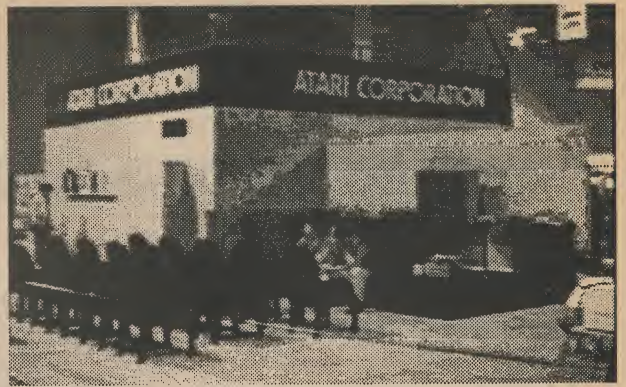
#### PC'S?

Atari's new ABC line of PC compatibles is a totally new design, nothing like those shown at some prior COMDEX shows and never marketed in the USA. This time they are ready and FCC Type B, and Atari had nothing to do with building them other than setting specifications. The big one, a 40 mHz 386DX, looks like the designer couldn't decide if he wanted a vertical or horizontal look, so one disk drive goes each way. At least the power switch is dead center on the front, a real change from the hidden rear location on the ST/TT line. DOS 5 and Windows come with it. The Notebook PC looked quite good, compact, and fast. The prices on the entire PC line are competitive, offering Atari dealers a way to sell branded PC's to their customers without having to stray from the Atari brand line.

On one side of the Atari booth was a mini-theater, a place to do demonstrations to a group. At least 15 chairs were set up by a stage where a 40" or so color monitor loomed over a TT and Mega STE setup. Here, Atari developers took turns explaining



■ **VidIST pics from COMDEX.** From far left. Atari's the first booth you see as you enter the Sands Exposition Center. ■ The view down from "Atari's observation platform." ■ A new trial for Atari—the stage where live demonstrations were offered. Note the observation platform on top!



their software to the usually appreciative audience. However, the stage was empty too much of the time, without so much as a posted schedule of demonstrations, although later in the week there were fairly continuous demos. But the stage was bleak and barren, without visuals on the sweeping grey blank background. Worse, the demonstrations were not slick, Hollywood-level presentations, the norm at COMDEX. More time in preparation was clearly needed, but this was a first try in the theater department for Atari.

#### BUNDLES

The exact bundles as sold in Europe are now finally offered to the US dealers. After years of debate as to what the USA needed for bundled startup systems, the US finally will join the rest of the world with the "Discovery XTRA", a 520 STe with games (Indiana Jones, Anarchy, Dragon's Breath, others), and the "Family Curriculum" pack with lots of educational modules and productivity applications for all ages. Each bundle features a colourful point-of-sale sleeve that promotes the entire package in the style that made K-Mart famous. Note the UK spelling of "colourful". You'll see it more.

Walking around the COMDEX floor, you soon get used to the idea that the PC and the MAC are the ONLY two platforms that the world considers to be general use machines. Every single booth has computers for demonstration of the company products, and 3 out of 4 are PC's, and the other is a MAC. It quickly becomes obvious why Atari is beating the niche drum on MIDI and DTP. Only for niche applications will the public consider anything but their "big two". No Amiga, either, folks, although I am told that the Amiga booth (in Bally's Hotel, not even in a main hall) was busy and well done. The product for the Amiga is "multimedia", period. And it does it well. But not alone. Pioneer has a wall of 16 video screens, making a huge TV display in mosaic. Nearby in the Pioneer display is a "Mars Navigator" interactive dual CD-controlled ultra-realistic display. Using a Mac.

Atari made another "good" impression at COMDEX, not a "great" one. COMDEX is where Atari needed to impress people with ATARI itself, and it's my feeling that all the third-party software ended up blunting that impact. Of course, convincing dealers and distributors that dramatic and varied software EXISTS for the Atari is crucial, but the power of the hardware and the company did not shine as brightly as I would have hoped. The lack of the new products in volume (and ready for distri-

bution) finished the job of making this year's Atari COMDEX showing barely more than a perfunctory appearance. As it was, though, Atari spent \$700,000.00 to appear at COMDEX this fall, and involved a staff of 20.

#### THE FUTURE?

Indeed, sources in Atari say that their COMDEX involvement was mainly out of obligation. They are far more interested in the development of "really" new products that they expect to show in March '92, and upon which the entire future of Atari will be built. And yes, the future will include TOS and a continuation of the ST/TT direction, not a surrender to MS-DOS.

#### WAACE

A hugely successful sales show, the DC area WAACE Atarifest, held October 11-13, drew only 1,600 people according to the board of directors of the show. Vendors say that it seemed like lots more than that, and many of them sold more products than at any show in memory, some doubling their previous high-water marks.

The show was again held at the Sheraton Reston in Reston Virginia, near the Dulles Airport serving the Washington DC area. The hotel is first-class, and the show floor and demo areas (lots of them!) were top-notch presentations.

Atari was represented by more officials than at any user group show in 1991, including Bob Brodie, Ken Badertscher, John Townsend, John Morales, and John Jainschigg. Brodie had a rare treat in the ability to mingle with the crowd on Sunday, dressed as a user instead of a Corporate Director. Townsend and Badertscher did a technical seminar to a packed house of eager and electronically literate listeners. Atari also donated a sexy Stacy portable ST as a door prize for the show, the biggest donated prize to date.

A highlight at one of the thirteen seminars was Dave Small GIVING AWAY Spectre 128 cartridges (minus MAC ROMS, sorry) to the crowds. A "swap room" with a flea-market atmosphere resulted in teeming throngs of Atarians, each wanting (and succeeding) in getting rid of their Atari "junk" and buying someone else's.

Vendors included: Codehead Software, Phil Comeau Software, Current Notes, D.A. Brumleve, Debonair Software, Double Click Software, eSteem Inc., FAST Technology, Gadgets By Small, Gribnif Software, ICD, ISD Marketing, JMG Software, Joppa

Computer Products, L & Y Electronics, MacDonald Associates, Megatype Software, Michtron, Micro Creations, Musicode Software, Rimik Enterprises, RIO Computers, Rising Star Computers, SLICCTOP, Step Ahead Software, Sudden Inc., Toad Computers, Unicorn Publications, WizWorks!, WuzTECH/OMNIMON Peripherals, and Zubair Interfaces.

Unusual highlights on the floor included eSteem Pilot, an easy programming language with special "hooks" for audio/visual controls, showing off interactive usage of the ST and a Pioneer video laser disk player. Another was 3-D sculptured surface modeling with Chroma Cad, an application for the 8-bit Atari 130XE.

ICD briefly had lots of their new AdSpeed STe for sale, the first time the 16 MHz accelerator for the STe was available anywhere.

ISD had a booth for the first time at any user group show. Mario Georgiou demonstrated Calamus SL and Cranach Studio. Nathan Potechin didn't do a seminar, but did present the Saturday night banquet speech, a take-off on "Lord of the Rings" featuring Atari personalities as hobbits and such. Nathan turned over the reigns of the IAAD, the developers organization, to the newly elected Nevin Shalit of Step Ahead Software.

The WAACE show was very upbeat to almost everyone, although there appears to be some background resentment on the part of the show organizers. Despite early warnings from Atari that almost no support could be offered to WAACE because of the scheduling conflict with COMDEX (setup for COMDEX began two days after WAACE on the opposite coast), the promoters appear to feel that they got less than they were due, considering their own Herculean efforts. As it was, due to Bob Brodie's efforts, more Atari personell attended than were originally planned. Some observers have tried to cast the affair in terms of a preference for the West coast shows, but that theory fails when one considers that at least six user group shows East of the Mississippi will have been supported by Atari USA in 1991, while only one in the West.

It can't be denied that Atari gave preference to their COMDEX appearance over WAACE. COMDEX brings 175,000 people, each one of whom represent distribution and exposure to thousands of retail locations, news media, and end users. —John Nagy ■



## New & Improved

### Rare find: An ST programming book worth having.

ST/TT ■ England—"Learn assembler the easy way, step-by-step," starts off the book *Introducing Atari ST Machine Code*. Containing over 400 pages, this comprehensive work introduces the reader via many ST assembly language examples. Gladly, no knowledge of assembly is assumed. All examples in the book are on disk (included) and can be compiled using the supplied text editor and integrated 68000 symbolic assembler. With two clicks a program can be assembled and executed.

In addition to the above examples, the included companion disk contains a symbolic debugger and a resource kit for easy construction of menus and dialog boxes. The disk provides documentation on XBIOS, BIOS, GEMDOS, system variables, and GEM libraries (AES and VDI). All the examples are supplied as source code, executable file, and resource files. Over 40 are included.

Topics covered in *Introducing Atari ST Machine Code* include: starting out with assembly; 68000 addressing modes; address and data registers; define constant and space directories; bss; status register; labels; file handling; DEGAS file handling; screen RAM and palette; hex as a binary representation; using the debugger; using the resource construction kit; operating system calls via GEMDOS, BIOS and XBIOS; disk formatting; GEM from assembly; dialog boxes; menus; VDI blitting, graphic primitives and GDOS; AES; VD52 commands; and much, much more.

*Introducing Atari ST Machine Code* makes the complex and daunting world of machine code programming understandable for most anyone—no small feat. *Introducing Atari ST Machine Code*, £20 plus £5 shipping, from zzSoft, 25 Honeyhole, Blackburn, Lancs, BB2 3BQ, England. Phone 0254-672965, Fax 0254-678803. (May have distribution through a U.S. company soon.)

### New publishing program looks to inherit Timeworks' crown—and then some.

ST/TT ■ England—When Timeworks outright dumped its Atari support, it left two fantastic products to wither and die—WordWriter and Timeworks DTP, now clearly showing their age. Still top sellers, neither has an upgrade path nor support natural

progressions, such as Atari's new scalable font GDOS. While many word processors scramble to grab WordWriter's huge market share, no mid-range desktop publishing program has come to the forefront, until now. Easy Text Professional DTP from zzSoft may become an instant best-seller.

Obviously based on Timeworks' metaphor, down to its Ventura-like mode icons and multi-function item box, Easy Text Professional DTP ads numerous features such as advanced text formatting, resizable predefined vector objects with bitmap incorporation, integrated clipboard and trashcan, frame linking, and four new mode icons. Simply put, if you like Timeworks DTP's elegance, want much more power without loss of ease-of-use, and don't want to move to Calamus or PageStream, your prayers may soon be answered. Your appetite whet yet? Easy Text Professional DTP isn't yet available, but stay tuned to AtariUser for a complete review (currently, PDC in Washington, distributes Easy Text Professional's little brother, Easy Text Plus). However, if you can't wait, Easy Text Professional DTP, might be available in England by the time you read this. We hope it's as good as it looks. Compatible with most 9/24 pin, inkjet, bubblejet, and laser printers. Appx. pricing £40. zzSoft, 25 Honeyhole, Blackburn, Lancs, BB2 3BQ, England. Phone 0254-672965, Fax 0254-678803.

### Custom monochrome and color screen-dumps.

ST/TT ■ England—Roger Pearson, CEO of zzSoft, says that their IMPrint software is "a must for anyone interested in producing quality mono or color printouts from your 9 or 24 pin printer." IMPrint isn't a paint program, it's specifically designed to print screen-dumps. You can define the screen area, print full-screen, and vary the output size and print both portrait and landscape.

IMPrint converts all DEGAS formats, NEO, and TNY to your current screen resolution and even automatically greyscales color pictures for black & white output. You can choose the number of print head passes (up to 9 passes and 3 densities) for greater control over final output.

Though no a full-fledged paint program, IMPrint does contain a decent set of drawing tools—lines, circles, fills, etc., and manipulation tools—outline, X and Y axis mirroring, etc. You can even label your final output with a choice of six text sizes and six styles, and justify your text automatically.

IMPrint is shipped with a 40 page manual and free technical support. £16, color version. £11, monochrome version. zzSoft, 25 Honeyhole, Blackburn, Lancs, BB2 3BQ, England. Phone 0254-672965, Fax 0254-678803.

### All talk and no play.

Los Angeles—Marketing gimmicks are all over the place, but this one can only benefit Atari. Currently, PacTel Cellular (a west coast cellular phone service carrier) is giving away a Lynx with each pocket cellular phone sale. The deal is being promoted with slick four-color print advertising which prominently features a Lynx. After the sales pitch, the ad says "Then, for being such a hard worker, you'll also get an Atari Lynx portable color entertainment system, absolutely free. Because after all, all work and no play can make life pretty boring." Ok, where's the cellular ComLynx cable..?

### Roots—Atari style.

ST/TT ■ Florissant, MO—Randall Kopchak has just released version 1.06 of his genealogy software packages *It's All Relative* and *BookMaker*. Improvements in *It's All Relative* include the ability to combine multiple databases for various calendar-format printouts, timelines and sorts. A new 120 column format that includes birth, death and location information. Improved drop charting for spouse information. Auto-capping. Maps available from within the program. Merge and link family lines. Missing information audit. *BookMaker* (for publishing your family tree in book format) now includes a title page template. *It's All Relative* and *BookMaker*, \$35 (\$3 upgrade), Randall Kopchak, 2233 Keeven Lane, Florissant, MO 63031.

### MiGraph OCR

Federal Way, WA—MiGraph has announced a new, high-end OCR package for the ST/TT that should be available for Christmas. MiGraph OCR directly supports MiGraph or Golden Image hand scanners and will also read TIFF and IMG files. It exports standard ASCII text for use in word processing, desktop publishing, etc.

MiGraph OCR promises a new level of OCR sophistication for the ST. Its claim to fame stems



from three major features:

**OmniFont Technology-** "OmniFont" technology enables the program to recognize characters based on mathematical definitions rather than a set pattern. Theoretically, this increases the chance that it can identify characters from the scan.

**Lexicons-** "Lexicons", in this case, are databases that contain syntax information for different languages. This enables the software to better identify characters. MOCR includes lexicons for English, French, German, and Dutch.

**Dictionaries-** MOCR also lets the user build unlimited custom "dictionaries". A MOCR dictionary is a library of character definitions that the user has identified. To keep dictionaries down to size (and keep the program up to speed) MOCR supports multiple dictionaries. That way, you can load in only the relevant dictionaries. MOCR is pretrained for over 20 standard fonts out of the box, including French, German, and Dutch characters.

MOCR also lets the user define separate text and graphic areas on the image, and then save the graphics as TIFF or IMG files, and the text separately in ASCII files. It can read point sizes from 10-18 with dot-matrix near-letter-quality text or better. Reading smaller text depends on the resolution of the scan, the quality of the text, etc.

The suggested retail price of MiGraph OCR is \$299.00. It will run on any ST/TT, and requires at least 2MB RAM and a hard drive. MiGraph, Inc. 200 South 333rd Street, Suite 220, Federal Way, WA 98003 (206) 838-4677.

**TIP ■** OCR (Optical Character Recognition) systems enable you to scan typewritten documents (with the aid of some type of scanner) and convert the scanned characters into standard ASCII text for import into word processors, desktop publishing programs, databases, etc. This lets the user bypass typing in the information.

## New GFA Raytrace Users Group

ST/TT ■ Minneapolis, MN—Shawn 'Nick' Smith, a GFA Raytrace enthusiast, has started a user group just for the program and its user's creations. The purpose of the group is to produce a library of the best works of its members, to share hints and tips with each other, and to let GFA know that there are a lot of people interested in Raytrace's continued development.

The group, which will keep in contact via its newsletter, has no fees associated with it. All that you need to join is to send a copy of your best works created with GFA Raytrace, including raytraced screens, wireframe data, or texture map pictures in NeoChrome, DEGAS, or Spectrum 512 format. The user group will send you a full disk of other members' best works, and you will be put on

the mailing list for the user group's newsletter. To join, write GFA Raytrace User News, c/o Nick S. Smith, 4406 5th Ave. S., Minneapolis, MN 55409.

## New Computer Exchange Program

ST/TT ■ Mountain View, CA—Komputerwerks, a new dealer on the Atari scene, has announced a new exchange program for Atari STe's. Send in any old computer, working or not, and receive an ultra-low discount price on a new STe. An Atari 520STe only costs \$319.95 with exchange, a 1040STe \$369.95 with exchange, and an Atari Mega 2 STe (w/50 MB HD) is \$1,249.95 with exchange. If you would like more memory on your new machine, add \$50 per megabyte (only on the exchange program.) Komputerwerks 316 Escula Ave., Suite 2, Mountain View, CA 94040, Attn: Exchange offer. (415) 853-6875.

## Unique New Shareware/PD Company

ST/TT ■ Niagara Falls, NY—Suzy B's Software is a new public Domain and shareware distributor in the ST market, and it has an interesting twist. Instead of buying disks with preset programs on them, Suzy B's provides customized disks, with only the files you want on them. Suzy B' sends you a disk-based catalog with detailed descriptions (including file size) of all the files available. You decide exactly which programs you want and put them on the order form, and add up the file sizes. This way, you can keep the number of disks you buy to a minimum and pack the disks as full as possible. All the files are self-extracting archives, to get even more on each disk. Single-sided disks \$4, double-sided \$6. Shipping is free. Call for catalog, \$1. Suzy B's Software, 3712 Military Rd., Niagara Falls, NY 14305 (716) 298-1986.

**TIP ■** A Self-Extracting Archive is a file, or group of files, that have been combined and compressed into one file, so as take up less disk space. A special program built into this "archive" file makes it self-extracting. This means that you don't have to use an Archiving program to "un-archive" it. To separate the files and make them usable again, you only have to run the archived file itself, and all the files in the archive will return to their normal, space-wasting selves, which is the state they must be in to be run-able (usually.)

## The Computer Dungeon: Jack of All Trades

ST/TT ■ Lansing, MI—The Computer Dungeon, an

interesting mail service company, offers many interesting services:

**PD/Shareware programs on disk**—Like Suzy B's, TCD offers PD/Shareware on a choose-the-programs-on-the-disk system. The catalog is on paper, though, and the programs aren't in a compressed format. However, the price is lower per disk: SD or DD disks, \$4. Shipping, \$1 per two disks.

**Commercial Software**—for the ST/TT, 8-Bit, and Lynx systems, including a "budget" line of ST software. **Buy/Sell/Trade Software**—ST/TT and Lynx. For example, you can trade one Lynx game for another and pay only a \$5 trading fee. **New Hardware**—STe's and peripherals. **Magazines**—Current Notes, Atari Interface Magazine, ST Action, ST User, and ST Format. **Club**—Called the Dungeon Sojourn Club, members receive a monthly newsletter, a PD/Shareware disk of the month, reduced price on PD/Shareware disks and free shipping, and a 5% discount on new commercial software. The cost of membership is \$25 per year for full membership, \$18 for disks only, and \$7 for a subscription to the newsletter only. The Computer Dungeon, P.O. Box 25011, Lansing, MI 48909 (517) 887-8741

## Megasoft Entertainment Releases Disciples of Steel

ST/TT ■ Webster, TX—Megasoft, a new U.S. software company, is releasing its new game, Disciples of Steel, as you read this. The unique part of the story is that the company is actually releasing the Atari version first (before the IBM and Amiga), and is directly marketing the software in Europe, instead of selling it to a European marketing firm. This poses interesting challenges, such as translating the game into French, German, Italian, and Spanish.

Two years in the making, Disciples of Steel is an advanced fantasy role-playing-game, kind of a 3D Ultima, according to the company. It also features player characters from eight races and nine classes (vocations), each having 22 statistics. The player can control up to eight active characters at a time, from 24 total. The game also features a war simulation near the end of the game (where you command armies, and the logistics that go with that, in movement and battle.) Disciples also supports hard drives for faster load times. Disciples of Steel, \$49.95, runs on an ST/STe/TT with 1MB or more of RAM and a double-sided drive. Megasoft Entertainment, 137 W. Bay Area Blvd., Webster, TX 77598 (713) 338-2231 ■



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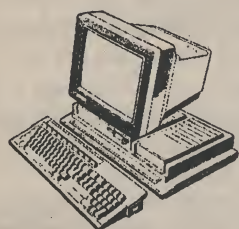
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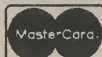
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■ **Flight of the Intruder**  
2061 Challenger Drive, Alameda, CA 94501. (510) 522-3584

■ **Turbo Sub, Scrapyard Dog, Checkered Flag**  
Atari Corp.,  
1196 Borregas Ave.,  
Sunnyvale, CA, 94089

# RE:Views!

## Turbo Sub

Lynx ■ Once again, the planet Earth under alien attack, the last hope is a maverick solo attack, and (surprise) you have been selected for this honor. TURBO SUB for the Lynx takes off from this tried-and-tired premise with a lively first-person nonstop fire fight. You'll pilot a high-speed flying and diving arsenal against waves of enemies such as mines, amphibious warships, and robot sea creatures. Each level starts with a direct attack over the ocean. Survive that, and you head underwater with more enemies to fight, obstacles to dodge, and gems to gather. At the end of the round, you can use the gems to buy additional weaponry.

TURBO SUB objectives are to blast everything while dodging everything else. The limited concept demands fast, frantic action, and TURBO SUB delivers. It starts easy, but quickly throws out more opponents and more firepower. But even with 17 levels, a skilled video warrior can win the game in 30 minutes. Two players can Comlynx together, but the only purpose is to compete for points.

As expected, the Lynx sprite hardware makes TURBO SUB's 3-D effects smooth and effortless. The graphic elements are a mix, from realistically detailed to bright and simple. In contrast, sounds are very minimal. The only music comes from a bouncy tune at the title page, and actual game sounds are mostly explosions and weapons fire.

What TURBO SUB lacks in originality and variety, it makes up with fast action and excitement. If you're looking for an uncomplicated game of massive destruction at Mach 3, TURBO SUB is the way to go. Atari Corp., \$34.95.

## Scrapyard Dog

Lynx ■ Louie, the big-nosed junkman from the Atari 7800 game SCRAPYARD DOG, returns in this Lynx adaptation. His dog, Scraps, has been kidnapped by Mr. Big, and Louie must rescue his pet pal by running and jumping through 28 stages. Along the way, he'll face Mr. Big's animal gangsters, falling rocks, and other obstacles. He can lob cans to fight back or sidestep the problems. He can also find money, play in bonus sequences, and go shopping, all while a timer counts down.

SCRAPYARD DOG is solid game action in an easy package. The action is on a side view, scrolling playfield; dangers are clearly visible, saving you from a blindside attack. With vehicles to drive, places to explore, and villains to foil, you'll be busy. Things never get too hectic, though, and overall the game runs at a leisurely pace.

The graphics in SCRAPYARD DOG are simple and entertaining. Objects are easily identifiable and drawn in bright colors, and there are extra touches, such as an animated opening cartoon and Mr. Big's taunts throughout the game. Sounds are pretty basic, offering appropriate noises with a musical tune thrown in.

Despite the cute graphics and the simple plot, this title offers good clean fun for players of all ages. The hidden surprises and the variety throughout add to the game's appeal, making SCRAPYARD DOG a recommended title. Atari Corp., \$34.95.

## Flight of the Intruder

ST ■ Spectrum Holobyte brings us this long-awaited spiritual sequel to the classic "Falcon" in a beautiful blue box containing the Stephen Coonts paperback book on which the game was based.

Flight of the Intruder ("FOTI") is set in 1972 Vietnam during the infamous Linebacker Campaign. It can be installed on a hard drive, has modem facilities, and separate cards explaining your keyboard controls, although they should take a hint from Microprose and use layovers for ease and realism.

The game's greatest selling point is the variety options. You can fly an A-6 Intruder or F-4 Phantom and switch to either plane mid-session! If the mission involves a group of planes, you can control up to eight aircraft, "jumping" from cockpit to cockpit! You can even plan your own mission, attacking real Vietnamese installations and locations.

Graphics are more fine-tuned than "Falcon," which is another way of saying they're very good. Since the breakthrough of "Fighter Bomber" and its multiple camera views, "Intruder" joins the fray with satellite, tracking, and outside views, all with zooming and rotation.

The manual takes you step by step and you realize, while it's involving, it's NOWHERE as complicated as "Falcon" or "Flight Simulator II." But the manual is flawed in organization and information. The walk-through of the first Intruder mission is missing critical information to release your Wall-eye missiles. What you need is on page 142, buried in the back. Worse, there is NEVER an explanation in the entire manual about how you can move from plane section to plane section. The box brags about the feature, but how? Apparently, you can even move into the enemy's cockpit or SAM site, but again, no explanation of how it's done. If a game company bothered to advertised this feature and go to the trouble of putting it in the program, they

should absolutely explain it!

FOTI will not run on a TT or even on a 16 MHz MEGA STE, although it will run on accelerated ST and STE machines. It is the best flight simulator since "Stealth," even though the manual has a few kinks to be worked out. \$59.95, from Spectrum Holobyte. —Drew Reid Kerr

## Checkered Flag

Lynx ■ Strap on the helmets and head for the track; it's high speed auto racing with CHECKERED FLAG for the Atari Lynx. The usual elements are here: cars to pass, curves to negotiate, and roadside obstacles to avoid, all while trying to be first across the finish line. While this game offers nothing original, it implements everything effectively. There are no bonus items, weapons, or auto design here; success or failure is based completely on your driving skills.

The action is viewed from directly behind your car. A course map, race information, speedometer, tachometer, and rear-view mirrors are always visible. The computer opponents are straightforward, though they stay on the road better and try to pass whenever possible. Hitting something may result in a crush or a spinout, which costs speed and time. Take too many hits and you might even lose your mirrors.

Eighteen tracks await your race, and starting positions can be set randomly or by a qualifying lap. You can drive for practice, a single race, or an eight-race tournament, and your car can be equipped with one of three different transmissions. Up to six Lynxes can be connected, and a total of ten human and computer racers can compete. You can even specify your sex and the color of your car.

CHECKERED FLAG's sights and sounds are among the best on the Lynx. Game graphics are elegant and highly detailed, and the Lynx's scaling effects give a convincing sense of speed. Game sounds are equally efficient, such as the announcer's introduction to each race and the stereo roar of other car's attempts to pass (on the new Lynx).

This is a high-performance title that does nothing but pure video racing, and does it extremely well. Though the promised track editor is not present, this one captures the thrills of the sport. Crammed with exciting gameplay, fast action, options galore, hot sound and graphics, and true multiplayer challenge, CHECKERED FLAG is absolutely terrific! Atari Corp., \$39.95.





# SpeedWars

## Two 68030 Upgrades for Your ST

The never ending pursuit of speed has brought us one Atari CPU accelerator after another, each offering price or performance increases over the normal 8 MHz 68000—the heart of the Atari ST. Atari itself now offers a 16 MHz Mega STe. But the real news in speed involves the use of a new processor, the Motorola 68030, the same one that powers the Atari TT.

This "next generation" of accelerators make an ST into something more than an ST and something different than a TT. While all of the about-to-be-available 68030 upgrades for the ST will outrun Atari's own TT030 machine by clear margins, a 68030 equipped ST is not a TT... it won't run "some" TT software, have the extra TT resolutions, or a VME slot. But it WILL run ST software at speeds never before seen, and be an affordable alternative to a TT for those persons who will not need the TT features - at least for now.

no wait states (no CPU waiting for the rest of the world to catch up), the 80 nanosecond chips weren't fast enough to run error-free. The solution is to add wait-states via the configuration program, which slows some operations enough to stabilize the RAM, but allows the full CPU speed on execution. "Burst read" modes allow the very fast CPU to have instructions ready for processing rather than have the CPU waiting for instructions to arrive.

Jim Allen of Fast Technology has offered progressively faster 68000 accelerators, and is also "about" to release a line of 68030 units. Two different 40 MHz designs have been shown, both with a coprocessor socket (as does the Gadgets unit) for the 68881 or 68882 math chip, although none was installed in anyone's demo units. A smaller version of the 68030 system is planned by Fast to be called the Tiny Turbo, should be ready before 1992. Jim expects it, at far lower a price and with a minimum of user configurable options than the big boards, to be the real seller for speed demons. It will have 64K of cache RAM, run an '030 at 40 MHz, and should be only slightly larger than his Turbo16/20/25.

The Fast Tech board takes a different approach to RAM. An external Static RAM cache is available to the 68030, in a similar fashion as in most 68000 speeder boards. Here is where instructions from the executing programs reside briefly, ready when the CPU wants them. The original design of Jim Allen's board, as shown at many shows lately, has no "fast RAM" as in the Gadgets' board, and instead has a 16K cache. However, another version of the Fast board is to offer 4 meg of 32 bit RAM, which completely replaces the motherboard ST RAM. The result is a completely 32 bit memory path with no video timing contention, allowing the ST to operate at the full speed virtually all the time. While the new design has been seen at shows, it has not been shown operating in a machine in public, and all benchmark information from Jim Allen is for the older cache design. This has led some critics to challenge Jim as to whether the new design works yet. Jim has taken the criticism lightly, saying that the proof will come shortly, and he predicts that his unit will outrun the Gadgets unit. Allen's design also has an onboard 68000, available for "downshifting" if and when a program chokes on the 68030.

Putting a 68030 in an ST requires the use of a different TOS version than the ST came with. Dave Small has arranged a licensed version of TOS 2.X from Atari to include with his unit. Jim Allen has had a license to use an altered TOS 1.6 for six months, with patches for his memory handling built into his custom ROMs. The job was done by the same folks in Germany that developed the "Kaos" TOS alternative. Jim says that a free TOS upgrade for all buyers will be available within a few months, once the details of his patches to 2.X TOS can be worked out.

This all presents a worst-case scenario for establishing a realistic opinion of which board might be better, faster,



Two companies offer (or rather, are about to offer) the 68030 units, and each has their own operating concept.

Dave Small of Gadgets by Small (the Spectre Mac Emulator folks) is preparing to begin shipping of his SST 68030 board. After a year in near-completed form, Dave wants the thing to run everything right from the start, since there is no way to "downshift" the unit short of ripping it out and replacing your old 68000 chip. His design (developed with George Richardson) offers complete configurability, from a bare board up to your choice of speed and memory add-ons. It only goes in MEGA computers - until adapters for STe and ST's are ready, "soon".

The Gadgets's board uses no cache RAM other than that built into the 68030, and instead opts for up to 8 meg of "fast RAM" in standard dynamic SIMMS packs, pluggable in rows as the user wants, needs, and can afford. By loading programs in this memory, clocked at the same speed as the CPU, the computer need not "brake" to the 8 MHz motherboard speed every time it needs instructions. The operating crystal that sets the clock speed and the 68030 itself are plug-in options at your choice of speeds (and price), and Dave demonstrated 33 and 36 MHz operations. He has tried it at up to 50 MHz, but the dynamic RAM speed becomes a problem. Demo units had 80 and 60 nanosecond rated RAM, and when running at 36 Mhz with

■ FAST TECHNOLOGY'S  
4 meg Fast RAM 68030

■ "We've completed our high density floppy support in the Turbo030's TOS roms. The format dialog box, upon detection of an HD drive, automatically gives you the ability to format normal ST drives and 1.44 Meg 3.5" disks, and 1.2Meg 5.25" drives. In Germany Makro CDE will be selling an optional HD module and HD drive, here in North America, Fast Technology will arrange for support of Wuztek and Dreamark HD drive kits. We have also made arrangements to exclusively license the Maxon virtual memory SW for the Turbo030, that currently is available for the TT. It will be a \$299 (tentative) option." —Jim Allen



cheaper, or less fattening. But comparisons are what most readers will want, nonetheless.

The Gadgets board consistently turns test runs of more than 7 MIPS (million instructions per second), while an unmodified ST does about .5 (one-half) a MIP. With a smile, Dave said he wouldn't compare it to a "real" TT because he "didn't want to bite the hand that feeds him TOS". However, our tests show the Gadgets SST030 to run about 20% faster than a "real" TT in the 36 MHz configuration—in some operations. Real life testing seems to bear that figure out as fairly realistic. Compared to an ST, the SST is about 8 times faster.

The Fast Technologies T030 (with no fast RAM and a 4K cache) tests notably slower than the full blown Gadgets board, and clocks in at about 80% the speed of a TT, but five times the speed of a stock 8 MHz ST. Test results are not available for the newer Fast design using 32 bit RAM, but Jim Allen estimates that the larger (16k) instruction cache of the production units alone will increase the memory number significantly, and that the 32 bit RAM equipped unit will "completely blow everything else away" and run up to double the speed of the original. He adds that even the TinyTurbo will be faster than the demo unit. Again, real-life tests will be more revealing. It is said that the Allen design is already faster than the Gadgets board in handling of graphics, and that Calamus SL runs faster on Jim's demo board as-is than it does on a TT.

Comparing costs is almost as confusing as comparing performance. Options upon options affect performance and the wallet in inverse proportion.

Fast Technology hasn't completely solidified all the details of their pricing, but at this point, these figures look pretty certain: the "large" board with soldered-in 40 MHz 68030 and crystal, 16k cache - \$1,199; same board with 4 meg of 32 bit RAM installed, \$1,999; the Tiny Turbo 030 with 40 mhz and 64k cache (non-upgradable) - \$699. Discounts are offered for registered FAST TECHNOLOGY and ISD product owners. More options: 50 MHz 68882 with a 50 and 60 MHz crystal (some video boards can handle the 60) - \$299; virtual memory option making your available virtual RAM 128 meg via hard drive - \$299. Installation will be available from Fast for \$100 flat rate.

The Gadgets SST with no 68030, no memory, and no coprocessor is \$599. What DO you get? The board itself, the driver FastRAM Utilities, TOS 2.X on ROM, and a bunch of empty sockets. You can "roll your own" using your own parts (Dave suggests you solicit a free sample 68030 from Motorola, assuming you can concoct a half-decent cover story about a product you are developing!). Or, buy the parts from Gadgets at prices they guarantee to be non-competitive, but convenient: 16 MHz 68030 - \$200; plus 4 meg SIMMS (80 ns) - \$460; 4 meg alone - \$260; 33 MHz 68030 plus 68882 plus 4 meg - \$800. A fully dressed SST could sport—and use—up to 12 megabytes of RAM. You can beat these prices by a lot if you try, and you can have an SST up and running for under \$800 at 16mhz, or \$1000 for a 33mhz system.

Further upgrade paths are offered by enhanced color

system cards. The Gadgets unit will offer direct support for the CHROMAX board, with even more dazzling speed and up to 1024 by 768 pixels and any of 16.7 million colors available. The Fast Technologies unit will keep compatibility with the many add-on color and resolution enhancements that are already available for the ST line.

No doubt about it, any one of the final versions of either company's board will dazzle and amaze. A "bad" choice is not available. Unfortunately, at the time I write this, neither is a "good" choice. However, both companies seem sincere in their resolve to have commercially available products before the close of 1991.

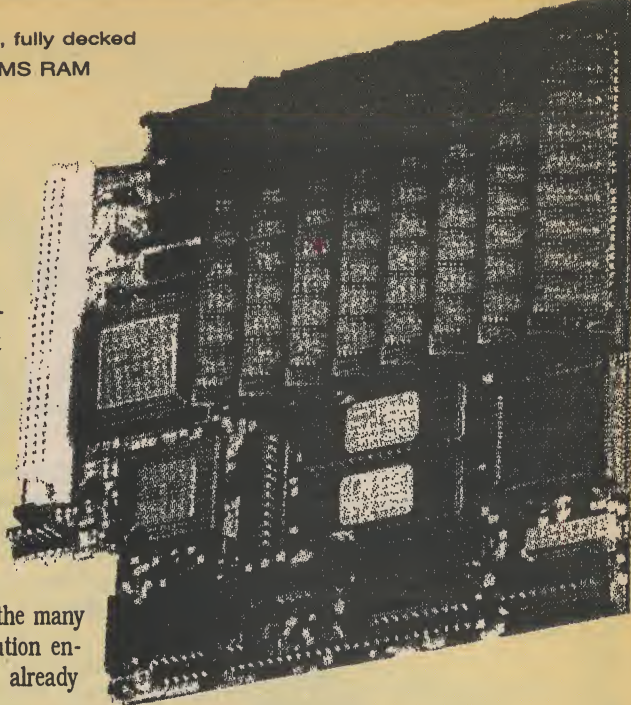
The cheapest unit will be the Tiny Turbo, and if it performs anything like the larger unit Fast has shown to date, it will be a great deal. The middle rank in pricing brings options from both Gadgets and Fast, and their performance may be similar. Tests of the products when they are actually shipping will tell more. At the top end, the versatility of the very configurable Gadgets board may make it a good choice for those who want it all.

But wait - I'm sure there's more to come! ICD Inc., makers of AdSpeed and the Advantage ST Host Adaptor, has a firm policy against discussing products that are not finished. But rumors of an '030 from them have been circulating for many months. If released, expect it to be an outstanding product as well. —John Nagy ■

#### ▼ RESOURCES

**Fast Technology**, P.O. Box 578, Andover, MA 01810, 508-475-3810. ■ **Gadgets by Small**, 40 W. Littleton Blvd #210-211, Littleton, CO 80120, 303-791-6098.

▲ **John Nagy** is Editor of AtariUser magazine, and has written for more Atari magazines than most of us can recall existing, plus Computer Shopper and others. In real life, he pursues a career in Law in Sunny California. And he hates deadlines (He can't meet 'em either—Pub.).



■ "We don't 'get around' the Atari MMU (which by the way is not an MMU but a combination DRAM/DMA controller), we just kind of ignore it. All DMA & screen RAM is in the 4 meg normal Atari ram space. The Fastram, which can only be accessed by the 68030, starts at \$1000000 and goes up from there. You can program the 68030 MMU chip without regard for the Atari ram controller." "Nothing so far written will run on the TT & not the SST." —George Richardson



# Silhouette

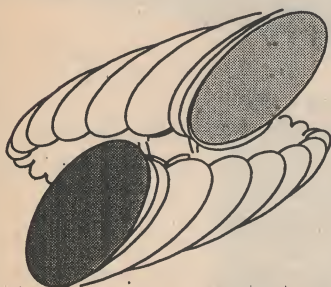
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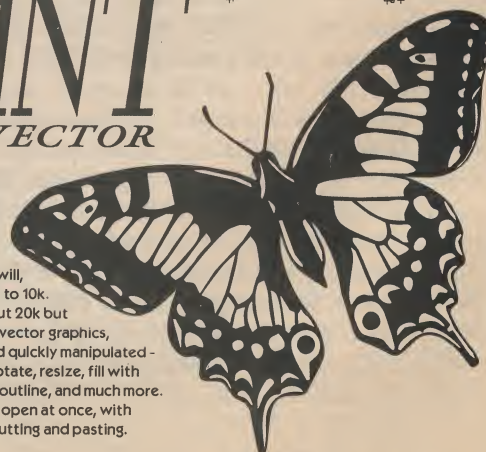
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# MultiSync Myths and the Atari ST

Most ST owners know the ST uses different video signals for its color and monochrome modes. You may have read about the monochrome SM124's 70 cycle vertical refresh rate (how often per second the screen redraws itself from top to bottom) and its sharp, flicker-free display. Less publicized is the RGB (color) SC1224's 60 cycle refresh rate. What's NOT common knowledge is that the ST also uses two different HORIZONTAL scan frequencies (the rate at which screen data is drawn left to right).

So what? It's not a problem—unless you want to use a multiscan monitor instead of two Atari monitors. Let's face it, having a single monitor that handles all three resolutions and provides a larger screen to boot has its attractions. Another attraction is Atari TT, add-on ST/TT graphics card, and even MS-DOS compatibility.

The Atari monochrome display is close to one of the standard VGA modes, and thus fairly VGA compatible. Most multiscans will handle it just fine. Unfortunately, the color display is based on IBM's old CGA video mode and few VGA or multiscan monitors bother to support it anymore. So why not just use an old CGA or EGA monitor? Don't even think of it! If you do you'll likely damage your monitor, your computer, or both. Those old units were designed for a TTL (digital) signal and the ST uses an ANALOG video signal, and the two are just not compatible in any way, shape, or form.

So while the advantages of a single 'all-res' monitor are fairly obvious, there are some disadvantages to using a multiscan with your ST. Multiscans tend to be rather expensive, with retail costs up to and over \$1,000, though most can be found in the \$400 to \$600 range via mail order. You'll also need a video adapter (switchbox) to use a multiscan with your ST, and this will add another \$100 or so. Size and weight can also be problems as multiscans can weigh up to 30-odd pounds and tend to be several inches deeper than an Atari monitor. Multiscans also usually lack internal speakers so you'll have to rig your own speaker system. Finally you have to understand that while some come close, NO color monitor will match a monochrome monitor for crispness or clarity.

Is the monitor you have or want 'auto sizing'? Forget it! That feature is limited to VGA/Super VGA and Mac II displays. When switching resolutions on an ST (color to mono) a multisync's display is going to shift to the right. Depending on the monitor, it may be a BIG shift. It also forces a change in the overall display size. Generally speaking, the higher the vertical refresh rate the larger the screen display will be. When playing a 50 Hz English game the screen display is only 5" tall while a standard 60Hz color program or desktop display is the normal 6 to 7". Switch to high resolution's 70Hz display though and you'll fill the entire screen.

Your first and most obvious choice is using two Atari Monitors. The SM124 offers a superb monochrome display that's unmatched by ANY multi-scan monitor and is reasonably priced. The SC1224, while no barn burner, is a good monitor for the money and can handle simple word processing or database/spreadsheet work with few problems. Unfortunately, its

.38" dot pitch is just not up to handling anything requiring detailed displays such as drafting, cad/cam, and so on.

Your second choice is one of the 'Pre-Packaged' multiscan systems for the Atari ST such as those from Omnimon Peripherals (OPI, formerly WuzTek) or Talon. Both are solid units that combine excellent color and high resolution displays with a reasonable price and should satisfy any users' needs. Best of all, both come as simple, pre-tested 'plug-and-play' units that eliminate the chance of incompatibility.

If you already have a multiscan or want the 'very best' display possible and don't really care about cost (are there really such people?), you'll need an interface to connect it to your ST. Even more importantly, you'll need a way of switching between color and monochrome modes. Of several available, I've tested OPI's OMNIX-2 and Talon's Omniswitch. Each provides the identical display.

OPI's interface is a small 'solid state' box smaller than a deck of cards that connects out of sight between your ST and its monitor. To change resolutions, OPI supplied a thin 'wafer-switch' that you can put almost anywhere. This switch also provides the ability to force a 're-sync' if the monitor loses the video sync signal. OPI also supplies software to let you change resolutions without having to re-boot, but it requires a lot of RAM and the commercial program "Revolver" to use it. The OPI includes interface, cables, and software.

Talon, on the other hand, seemed more interested in flexibility and expansion. Their interface is a large (11 X 3.5 X 2") unit with two mechanical push buttons that has to sit within reach of the user. To compensate for its size, the Talon comes with built-in DB-9 and DB-15 connectors and can act as a switch box for dual Atari monitors. Talon also includes a built-in a switch box for two secondary disk drives (B & C) and also includes RCA connectors for audio and B&W Composite Video. Optional is Talon's unique GEM patching program to allow 'on the fly' resolution switching with a custom external switchbox. It lacks the PI's re-sync capabilities, and some users report having to try several units to get a stable one. The product is more expensive than the OPI and does not include cables.

Other interfaces are available from IB COMPUTERS, RIO, TOAD, and JOPPA, several of which advertise in AtariUser magazine.

## MONITOR TEST RESULTS

Though I tested a number of multiscan monitors for ST compatibility, I couldn't test all of them. The "\*" indicates that I didn't personally test this unit and the compatible/not compatible call is based on the manufacturer statements or owner reports.

OPI Omnimon Rainbow/ACER 7015/MAG COMPTONIC PMV14C Plus: This monitor provides excellent compatibility with the ST and does so at a VERY reasonable price. The color mode is at least as good if not better than Atari's SC1224. The monochrome mode, on the other hand

### ▼ These monitors

'should' work with the ST

Relisys RE-5155\*

Cordata CMC-141M\*

AOC CM324\*

Mircovitec 1019/SP\*

Electrohome ECM-1310U\*

AOC CM326\*

Nanao FlexScan 9060S\*

Idek Multiflat MF-5015\*

Acer 710VH\*



## Atari ST Video Display Frequencies & Monitor Data

	Vertical Refresh(Hz)	Horizontal Scan(Khz)	Claimed Screen	Actual Display	Monitor Dot Pitch
SM124 Mono (hi res)	70	35.1	12.0"	9.5"	.7
SC1224 Color	60	15.7	12.0"	10.0"	.385
Multiscan (desired)	50-90	15.7-38.0	14.0"	13.0"	.28

isn't quite as sharp as the SM124's. Despite this, the PMV14C's display is more than adequate for CAD/CAM, DTP, Drafting, or any other high-resolution use. The positioning controls, unfortunately, are behind the monitor.

**PRINCETON ULTRA-12\*:** A friend who built his own interface described the Ultra-12 as 'perfect'. This is understandable since the Ultra-12's 12" screen is almost identical the Atari monitors' and, as a rule, the smaller the screen the sharper the display.

**PRINCETON ULTRA-14:** Works and syncs nicely. While the color modes were excellent, the unit I tested suffered a background 'waver' in monochrome mode. I'd estimate the Princeton Ultra-14 to be slightly superior to the Mag Computronic PMV14C.

**Sony CPD-1302:** This unit rolled uncontrollably with both interfaces. This is because Sony uses a custom DP-9 pin-out that requires a special adapter for their sync signal. Generally speaking the 1302 should have a good to outstanding display in all video modes due to its .26 dot pitch.

**NEC 3D:** Though it's color mode wasn't as sharp as the OPI's, the NEC had the best monochrome display I saw during this test. The best feature of the NEC is it's built-in ability to remember video display modes and screen positions. This eliminates having to re-center or re-size the ST's screen display when changing modes (after an initial setting). Also nice is that ALL controls are conveniently located in front of the monitor. Along with Sony, the NEC is one of the most expensive 14" multiscans on the market today.

**Mitsubishi FA3415ATK\*:** This one should work and has received VERY high reviews in several IBM specific magazines for brightness and clarity.

**Mitsubishi Diamond Scan 1381\*:** Talon Technologies has tested this unit and found that it works with the ST. However the Diamond Scan has received less than glowing reviews for clarity and crispness in several MS-DOS related magazines.

**Samsung Model CN 4551\*:** Another unit tested and approved by Talon.

**Panasonic PanaSync C1391\*:** This one has gotten raves both for picture and price, as it is apparently being sold out at a major discount as low as \$329 in mail order ads.

### WHAT TO LOOK FOR IN A MULTISCAN

1) Make sure the monitor is a true multiscan and NOT a Tri-Sync or "multisync", limited to standard VGA modes. Some multiscans advertise CGA/EGA compatibility based on using a

VGA card that converts EGA/CGA to VGA frequencies. That won't work on your ST.

2) Be POSITIVE that the unit handles not only 60 and 70 Hz vertical refresh rates but the 15.7 and 35.1 KHz horizontal sweep frequencies as well. This is where most multiscans and VGA monitors fall flat on their faces.

3) Look for a dot pitch of .28 or smaller, and a medium to short phosphor. The smaller the dot pitch the sharper the image should be, and a long persistence phosphor is useful only if you're into interlacing, something that ST doesn't normally do.

4) Unless you pick the NEC, you'll have to get used to the display shifting some to the right when going from color to monochrome (and visa-versa when going the other direction). That or spend some time adjusting the size and horizontal position controls to keep things centered each time you change resolutions. Try before you buy!

Both the OPI and Talon fit all four requirements. As a result, it's pretty hard to justify spending lots of hard to find cash on a build-it-yourself system unless you already have access to a multiscan or, like me, are a pathological perfectionist. Yes, you can get a better display than the pre-packaged units, but doing so may cost you some major dollars.

As I said, I'm a pathological perfectionist, so I picked the NEC 3D. Available at \$600 and up via mail order, its display was outstanding and its ability to remember the ST's display modes was just too tempting for me to resist, even at the price.

Still want to 'roll your own'? Test the monitor you want BEFORE buying it. Make NO exceptions unless you can afford another doorstep. —Gregg Anderson ■

### ▼ RESOURCES

**Omnimon Peripherals Inc** (Formerly WuzTek), 1 Technology Drive, E-301, Irvine CA, 92718, (714)-753-9253 ■ **Talon Technologies Inc.**, 243 N. Highway 101, STE. 11, Solana Beach CA, 92075, (619)-792-6511 ■ (And more monitor companies than space allows us to list here, see your dealer for details.)

▲ **Gregg Anderson** is a member of the Far East Atari ST Club, Yokota AFB Japan. A long time Atari supporter and registered developer, he has had over 25 articles printed in various Atari-related magazines over the past four years.

▼ These monitors are NOT compatible with your ST.

Seiko 1440/1450  
ViewSonic 4  
Samtron SC-428V\*  
Sony CPD 1304\*  
NEC 4D/5D\*  
Samtron SC-431V\*  
Mitsuba 710VH\*  
Dell Super VGA\*  
AOC CM325\*  
Goldstar 1450\*  
Amdek AM/738\*  
NEC-2A\*  
Tatung CM-1496X\*  
All Packard Bells\*  
All EGA/CGA monitors\*





**PORTFOLIO ALERT** ■ Essex Marketing Services, (203) 651-8284, has released a **FORTH** compiler for the Portfolio. There is also a version available for the PC to allow for easy program development. ■ **A new issue** (the third) of **APB** (Atari Portfolio Bulletin) has been released by Atari Corporation. The 50-page miniature book has been updated to include the latest releases

in Portfolio products, along with hints of what is to come. It also has user tips and hints, plus coupons from a number of third-party Portfolio developers. Cover price is \$1.00, from your Atari dealer or direct from Atari, 1196 Borregas Avenue, Sunnyvale, CA 94089-1302. ■

## Hard & Soft Upgrades

▼ THE PORTFOLIO CHRONICLES...

So you want more? More Portfolio than Atari sold you? Due to the tiny and efficient design of the Portfolio, there are very few internal hardware upgrades available. You can "expand" with hard drives and external interfaces, but the major internal hardware upgrade is memory expansion.

### HARDWARE UPGRADE

Megabyte Computers in North Texas will upgrade the memory in the Portfolio from the standard 128k to a whopping 512k. To upgrade your system, you need to send your Portfolio to Megabyte for three day surgery, and they ship it back. You'll then have 512k of memory! The first thing you will notice is that drive C: can now be as large as 464k!

The upgrade greatly increases the sizes and types of programs you can run, as full-size PC applications can be loaded. But it will have no effect on the built-in applications: their data file size is still limited to about 55k each.

Good news from Megabyte this month is that they have just dropped the price of the upgrade from \$350 to \$299. If you cringe at the thought of someone opening up your Portfolio, you can buy a new Portfolio with 512k from Megabyte for \$529. But don't worry too much, since Megabyte is a factory-authorized Atari service center, an Atari Dealer, and that many employees of Atari have had this upgrade done. They also provide a six-month warranty on the upgrade. Megabyte Computers, 909 Melbourne, Hurst TX 76053, 817-589-2950.

**TIP** ■ It is possible to use rechargeable batteries in your Portfolio, but be warned: the discharge drop-off on rechargeable batteries are much steeper than normal alkaline batteries. You may miss the **LOW BATTERY** warning as the exhausted rechargeables will go from operational to completely dead in hours rather than in weeks. Keep all your data and programs on a RAMcard if you want to use rechargeables.

There's an external memory upgrade that'll increase the Portfolio memory by 256k, but it's not available in the United States. The genuine Atari Memory Expander+ also adds a second card drive, but since it won't pass the strict FCC standards for radio frequency emissions, it can't be sold in the USA. Even if you travel overseas or up to Canada to pick one up, you'll find it to be more expensive than the internal upgrade. It also lengthens the Portfolio by an additional four inches, making the unit a bit long and a little wobbly.

### SOFTWARE

Perhaps one of the most important upgrades for the Portfolio is the **UPDATE.COM** program from Atari. This program fixes

some of the more annoying bugs in the Portfolio's software. This is available from a number of sources, including Compuserve, GENie, and, of course, Atari.

PBASIC version 4.9, the 'freeware' BASIC interpreter for the Portfolio is now available in the **APORTFOLIO** forum on **COMPUSERVE**. The major upgrade to this version is the fact that, now, not only can you mix text and graphics on the same screen, but you can also have different size characters, underlining, reverse video, and create your own character sets. You can also write text sideways or upside down!

### MODIFICATION TO TURBO PASCAL

#### 3.01A TO RUN ON THE PORTFOLIO

Turbo Pascal 3.01 will not run on the Portfolio... or will it? It will... it just takes an amazingly long time. When TP3 starts up, it tries to determine the clock speed of the computer. It does this by waiting for a couple of timer ticks. On a standard PC, these ticks are generated 18.2 times a second. On the Portfolio, these ticks occur about every 2 MINUTES! So TP3 sits and waits. And if you do too, it may eventually run.

On Compuserve, in the **APORTFOLIO** forum, there is a document called **PURBO.TXT** that describes how to modify **TURBO PASCAL 3.01** for the Portfolio. After making a simple modification to the compiler with **DEBUG**, you then set the **DISPLAY** to **TRACKED** and **REFRESH** to **BOTH**, and you are ready to run. You can edit, run and compile TP3 programs on the Portfolio. The compiled programs will also run on the PC, but any programmed timing might be off, needing adjustment depending on the clock speed of the PC.

**TIP** ■ With cold weather here, be aware that batteries will drain faster. Try to keep the Portfolio and any spare batteries at room temperature.

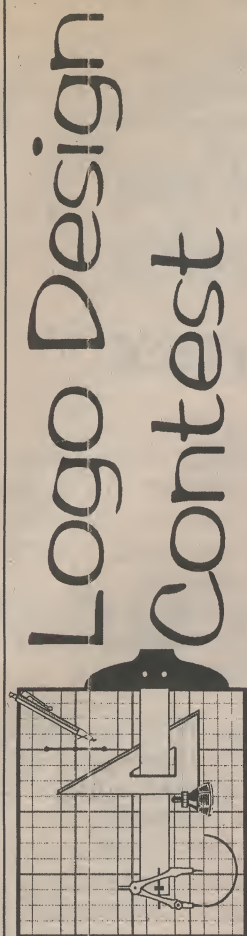
Don Messerli, of Vineyard Software, has upgraded **DBSHOW** to version 1.1, on Compuserve. This program will allow users to view **dBASE** files on the Portfolio. He has also added a new record type to allow for **PGC** graphic images to be included in the data base as well. —B.J. Gleason ■

▲ **B.J. Gleason** is an instructor of Computer Science at The American University in Washington D.C. and he's been programming for over a decade now. He's the author of over two dozen utilities and games, including **PBASIC 4.8**, the 'freeware' BASIC interpreter designed specifically for the Portfolio. His Email address is... **BJGLEAS @aunvm.american.edu** and his Compuserve ID is 73337,2011.

■ If you are not a member of **COMPUSERVE**, you should be. The **APORTFOLIO** forum has perhaps the most complete collection of **Public Domain**, **Freeware**, and **Shareware** for the Portfolio. You need a modem and terminal program to access this international telecommunications center, which is also an official Atari support site. New users can sign up for free and get a \$15 usage credit. Call (800) 848- 8199 and ask for operator 198. They'll drop your Sign-Up kit in the mail.



# Logo Design Contest



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- Design must contain three elements:
  - (1) **ADVENTURE** (concept: Sheena, Indiana Jones, Buck Rogers)
  - (2) **FANTASY** (concept: dragons, wizards, castles, swords & sorcery)
  - (3) **SCIENCE FICTION** (concept: nuts & bolts starships, planets, space)
- All work must be in black ink on white paper, no color work.
- Art must be on 8.5"x11" (or smaller) sheet of paper. Do not send larger artwork. Paper may be folded for #9 or #10 business envelope.
- Design may be enclosed in a circle, square, or other shape, if desired.
- We want good logo ART; please do not include lettering.
- Entries require: artist's full name, address, and postal code on back of **EACH** piece of work. An address sticker or stamp may be used.

- **DO NOT SEND ORIGINAL ART!** Keep originals safe in your files and submit a good photocopy.
- Art must be clean, sharp lines. Minimal use of shading: no washes.
- Art must be adaptable to logo, letterhead and computer printer uses.
- Enter as often as you wish. All entries may be sent in one envelope and there is no limit on how many entries you may submit or how many times you may submit.
- Art may be entered at the same time in FANDOM DIRECTORY art contest. Send photocopy of your work to both addresses...win twice!
- Art will **NOT** be returned unless return postage is included.
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- Contest is open to everyone. Pass the word to your friends!
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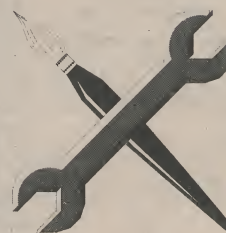
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**GAMES ALERT ■ JUST RELEASED: QIX (Telegames)**  
— The arcade classic converted. **Face Off Ice Hockey** (Krisalis) — 30 different countries competing. **Dragons Lair: Escape From Singe's Castle (Ready)** — more amazing Don Bluth animation and so-so gameplay. **Stratego (Accolade)** — The battlefield strategy game goes computer. **Wild Wheels (Ocean)** — Shoot'em-up

silliness with cars. **Shadow Sorcerer (SSI)** — a role-playing adventure but gamer-friendly. **Robin Hood (Millenium)** — One of the better movie tie-ins. **Captain Planet (Mindscape)** — Ecologically-correct platformer. **Outrun Europa (US Gold/Sega)** — More of the same car race across Europe. ■

## Captain Midnight's Annex

▼ NEW GAMES FOR YOUR ST

### SID MEIER'S RAILROAD TYCOON (MICROPROSE):

#### FIXING THE BAD PORT OF THE GREAT GAME

The ST had to wait a year for a conversion of Railroad Tycoon from MicroProse. Now the game is available, but the ST version is marred by bugs. Correctable bugs, but big bugs. But the game is awesome, worth every penny and worth fighting for.

After pumping out superior simulators for years, here's the second game from MicroProse that innovates the "simulation" concept (Pirates was the first). In this instance, you are master of your own genuine railroad in a very real period of time — Eastern USA (1830), Western USA (1866), England (1828), or Europe (1900).

Both Sid Meier and fellow designer Bruce Shelley admit this game's genesis was the incredible SimCity, and it shows. You observe from above a landscape laying track, watching your trains go from station to station, constructing factories and engine shops, all under the watchful eyes of your stockholders.

Now, the bugs. The hard drive installation program was not written correctly and crashes when used. The other, and much more serious problem, is that the game crashes if you have OVER one meg of memory. The game has a little sticker in the corner that reads 1 MEG ONLY, and it means it. The sloppy conversion was programmed at MicroProse UK.

The first problem can be solved by using the PD program Disk Doctor or anything else that edits sectors. Take the file RINSTALL.PRГ and change every instance of COLOUR.LMB to COLOUR.PIX. You may also try manually copying both disks to a folder labeled RAILROAD, bypassing the automated installation altogether.

Nothing I've tried can really correct the second problem, but there IS a way to use Railroad Tycoon you have more than one meg. The solution comes from Todd Johnson and it is quite simple: use the shareware program called MAKE1MEG.TOS. It "masks" off any and all RAM above 1 meg. The program is one of GEnie's earliest files and I've uploaded it to both Delphi and CompuServe. Run it first, and Railroad Tycoon works beautifully! One of the year's best games. Strategy freaks, don't even wait a second. Swat the bugs and put on your conductor's hat!

### RAILROAD TYCOON—THE BOOK(S)?

With Railroad Tycoon out for a year on other platforms, there are two books for the Atari ST user to consider in order to maximize enjoyment of this epic game.

Russell Sipe's "The Official Guide to Sid Meier's Railroad Tycoon" (\$12.95, Compute Books) was written with Meier and is for the person who has "gotten their feet wet" in the game. There's also lots of railroad historical references, giving a strong perspective and flavor of the times.

On the other hand, Shay Addams' "Railroad Tycoon: Master Strategies for Empire Builders" (\$14.95, Silicon Valley/McGraw-Hill) is beginner-friendly and offers additional tutorial scenarios. It's straightforward strategy without the history, written very clearly and organized well.

My advice: if you just bought the game, get the Addams book. After getting around for a while, get the Sipe one. They complement each other well.

### HIGH SCORES—NEWS IN THE ST GAMES WORLD

From on-line rep, "Quentin" at MicroProse on UK ST conversions: "Gunship 2000 will be at least six months to a year behind the IBM release. The UK is working on Command HQ, Knights of the Sky, Covert Action, as well as Grand Prix, Advanced Tactical Air Command and probably Air Duel"...

More news from the UK: Psygnosis and DMA Design (makers of Lemmings) are working on a Dungeon Master-type clone called Hired Guns.... Virgin Games signed up heavy metal dinosaurs Motorhead... The long-awaited Populous II has now been pushed from December to January release so they can have a well-written manual. Apparently, it will be hard drive installable... More from Bullfrog: the first Powermonger data disk, based on a World War I scenario, is set for December... The Lemmings data disk won't be available until January... SimEarth, originally scheduled for spring 1991 release, won't see the light of day before Christmas... Due from MicroProse early next year: Advanced Tactical Air Command, part flight sim, part strategy and set in the future...

Entertainment giant Sierra-On-Line's latest slick Sierra/Dynamix Newsmagazine opens with an essay entitled "Is Your Computer Obsolete?" Atari is not mentioned at all in the essay, but the implication is clear: "There are really two safe hardware purchases: 1) a color Macintosh and 2) a 386-based PC." Then Sierra's magazine announced a "New Software Swapping Policy." "If you've got software for your old Atari or Apple IIGs and you just bought a new PC or Mac, you won't have to go out and re-buy your favorite Sierra games. If Sierra makes the same titles you own on either of these machines, we will let you upgrade to the newer machine version for only \$10 per product." Hmmm.

**FIRST IMPRESSIONS: Mega Lo Mania (Image Works)** — Looks like Powermonger, smells like Powermonger, a couple of minor twists, superb graphics and innovative sampled dialogue. Essentially, you've played this game before as Powermonger. **Utopia (Gremlin)** — Initial glance looks like a Populous clone but it's not even close. It's a space colonization game a la Supremacy and Imperium with a gorgeous Populous-type 3D interface. Good tutorial, exceptional packaging and manual, may be a big winner. —Drew Reid Kerr ■



■ **Railroad Tycoon** operates on two levels at the same time: making your railroad profitable while expanding it into new territory, and buying and selling stock in yours and competitors' operations. Rubbing against this are competitors based on real-life robberbarons, a roller-coastering economy, and acts of God (washouts, train crashes).

■ When he's not building railroads on his computer until 3:00 am, **Drew Reid Kerr** runs Four Corners Communications, a public relations firm (160 Fifth Avenue, New York, NY 10010). His "CAPTAIN MIDNIGHT'S GAME ROOM" is an extensive monthly on-line electronic newsletter dedicated to games on the Atari, and is available on all major services.





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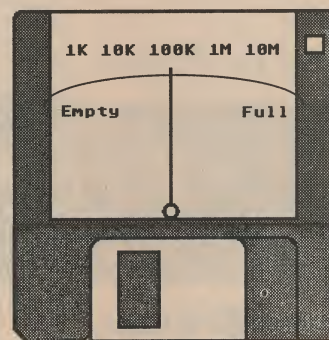
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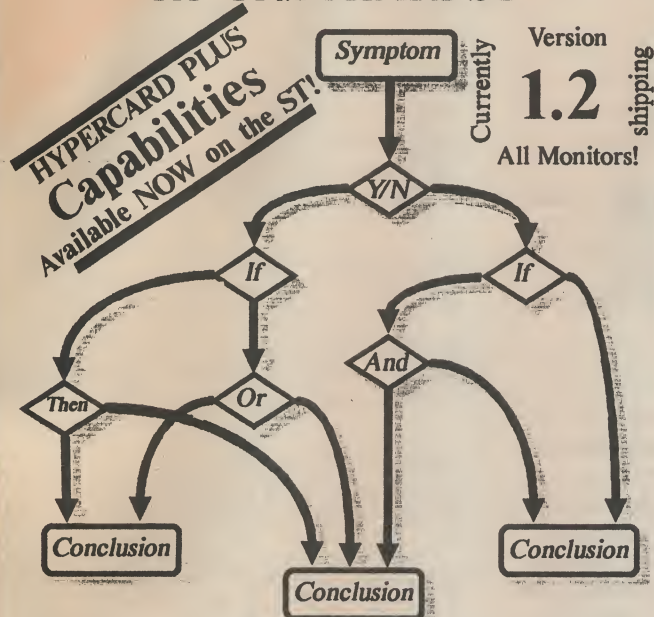
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## ■Lexicons.

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## ■Graphic Support.

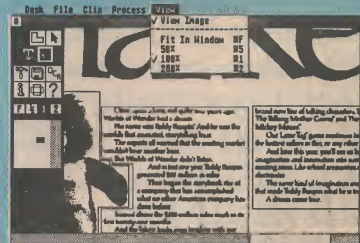
Select graphic regions and save them as IMG or TIFF files.

## ■Foreign Language Support.

Migraph OCR supports American and foreign characters and includes lexicons for English, German, French, and Dutch.

## ■Preview Functions.

Before OCR processing, you can view the whole image using a locator and different zoom levels. Use the polyline feature to select irregular shaped text and graphic regions.



Use polylines to define irregular text and graphic regions.

## System Requirements

Migraph OCR runs on any 16-bit Atari computer with 2MB RAM and a hard disk, including the ST, STe, Mega, and TT.



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